IB/03/5626

Sertifikaat / Certificate

REPUBLIC OF SOUTH AFRICA

REPUBLIEK VAN SUID-AFRIKA

PATENT KANTOOR
DEPARTEMENT VAN HANDEL
EN NYWERHEID

PATENT OFFICE
DEPARTMENT OF TRADE AND
INDUSTRY

Hiermee word gesertifiseer dat
This is to certify that

the documents attached hereto are true copies of the Forms P2,P6, provisional specification and drawing of South African Patent Application No. 2002/9881 in the name of Strydom, Johannes Matthys

Filed : 05 December 2002

Entitled : A Motor

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

Geteken te **PRETORIA** in die Republiek van Suid-Afrika, hierdie **9th** dag van **January** **2004**

Signed at **PRETORIA** in the Republic of South Africa, this **9th** day of **January** **2004**

Registrar of Patents

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

APPLICATION FOR A PATE[illegible]

AND ACKNOWLEDGEMENT OF RECEI[illegible]02
(Section 30 (1) – Regulation 22)

REVENUE
R 0060.00
HASR 711
IRKOMSTE
REPUBLIEK VAN SUID AFRIKA

The granting of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate

OFFICIAL APPLICATION NO.		S&F REFERENCE
21 01	2002/9881	PA134309/P

FULL NAME(S) OF APPLICANT(S)

71	STRYDOM, JOHANNES MATTHYS

ADDRESS(ES) OF APPLICANT(S)

	PLOT 126, ZWAVELPOORT, 0036, GAUTENG, SOUTH AFRICA

TITLE OF INVENTION

54	A MOTOR

THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. THE EARLIEST PRIORITY CLAIM IS:

COUNTRY:	NUMBER:	DATE:
NIL	NIL	NIL

~~THIS APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO.~~

21	01	

~~THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND IS BASED ON APPLICATION NO.~~

21	01	

THIS APPLICATION IS ACCOMPANIED BY:

- ☒ 1. A single copy of a provisional specification of 7 pages.
- ☒ 2. Drawings of 1 sheet.
- ☐ 3. Publication particulars and abstract (Form P.8 in duplicate).
- ☐ 4. A copy of Figure of the drawings (if any) for the abstract.
- ☐ 5. Assignment of invention.
- ☐ 6. Certified priority document.
- ☐ 7. Translation of the priority document.
- ☐ 8. Assignment of priority rights.
- ☐ 9. A copy of the Form P.2 and the specification of S.A. Patent Application No .
- ☒ 10. Declaration and power of attorney on Form P.3.
- ☐ 11. Request for ante-dating on Form P.4.
- ☐ 12. Request for classification on Form P.9.
- ☒ 13. Form P.2 in duplicate.
- ☐ 14. Other.

74	ADDRESS FOR SERVICE: SPOOR & FISHER, SANDTON

Dated: 5 December 2002

SPOOR & FISHER
PATENT ATTORNEYS FOR THE APPLICANT(S)

REGISTERED
REGISTRAR OF PATENTS, TRADE MARKS AND COPYRIGHT
05 12 2002
REGISTRATEUR VAN PATENTE, MODELLE, HANDELSMERKE EN OUTEURSREG
REGISTRAR OF PATENTS

REPUBLIC OF SOUTH AFRICA	REGISTER OF PATENTS	PATENTS ACT, 1978

OFFICIAL APPLICATION	LODGING DATE: PROVISIONAL	ACCEPTANCE DATE
21 01 2002/9881	22 5 DEC 2002	47
INTERNATIONAL CLASSIFICATION	LODGING DATE; COMPLETE	GRANTED DATE
51	23	

FULL NAME(S) OF APPLICANT(S)/PATENTEE(S)

71 STRYDOM, JOHANNES MATTHYS

APPLICANTS SUBSTITUTED:	DATE REGISTERED
71	

ASSIGNEE(S)	DATE REGISTERED
71	

FULL NAME(S) OF INVENTOR(S)

72 STRYDOM, JOHANNES MATTHYS

PRIORITY CLAIMED	COUNTRY	NUMBER	DATE
N.B. Use International abbreviation for country (see Schedule 4)	33 NIL	31 NIL	32 NIL

TITLE OF INVENTION

54 A MOTOR

ADDRESS OF APPLICANT(S)/PATENTEE(S)

PLOT 126, ZWAVELPOORT, 0036, GAUTENG, SOUTH AFRICA

ADDRESS FOR SERVICE	S & F REF
74 SPOOR & FISHER, SANDTON	PA134309/P

PATENT OF ADDITION NO.	DATE OF ANY CHANGE
61	
FRESH APPLICATION BASED ON	DATE OF ANY CHANGE

SPOOR & FISHER

FORM P.6

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

PROVISIONAL SPECIFICATION

(Section 30(1) – Regulation 27)

OFFICIAL APPLICATION NO.		LODGING DATE	
21	01 2002/9881	22	5 DECEMBER 2002

FULL NAMES OF APPLICANTS

71	STRYDOM, JOHANNES MATTHYS

FULL NAMES OF INVENTORS

72	STRYDOM, JOHANNES MATTHYS

TITLE OF INVENTION

54	A MOTOR

BACKGROUND OF THE INVENTION

THIS invention relates to an improved motor.

SUMMARY OF THE INVENTION

According to the present invention there is provided a motor comprising:

first and second housings wherein either of the first and second housing is connected to an axis about which it is able to rotate, so that the housing connected to the axis is able to rotate with respect to the other housing;

a plurality of permanent magnets connected around a perimeter of either of the first or second housings, wherein the plurality of permanent magnets are of alternating pluralities; and

a plurality of electromagnets connected around a perimeter of the other of the first or second housings.

BRIEF DESCRIPTION OF THE DRAWING

The Figure is a schematic illustration of the motor of the present invention.

DESCRIPTION OF AN EMBODIMENT

Referring to the accompanying drawing, a motor 10 includes a first housing 12 and a second housing 14. In the illustrated embodiment, the second housing 14 is in the form of a disc which is connected to an axis 16 about which it is able to rotate.

The first housing 12 in the illustration will be held stationery in use. However, it will be appreciated that this relationship could be reversed with the outer housing being rotatable about the inner housing which is held stationery in use.

The inner housing 14 has a plurality of permanent magnets 18 connected around the outer perimeter of the disc 14. The plurality of permanent magnets 18 are of alternating polarities, as indicated in the illustration.

A plurality of electromagnets 20 are connected around the inner perimeter of the housing 12.

The present invention utilizes a combination of linear propulsion and leverage. Whereas traditional electric motors have two or three large electromagnets tightly fitted around the axis, the present invention uses many magnets fitted some distance from the axis of a circle. The magnets are situated close to each other, and the larger the radius, the more magnets are used .

Although the illustrated embodiment has the permanent magnets located on the inner disc and the electromagnets located on the outer disc, this configuration can be reversed if convenient. The only requirement is that one set of the magnets are permanent and the other set of magnets are electromagnets.

The electromagnets 20 are supplied with electricity from either an AC or DC power source which is not shown in the accompanying Figure.

When current is applied to the electromagnets 20, the permanent magnets 18 on the disc will attempt to align their poles with the opposing pole of the magnets 20 on the housing 12.

As this is accomplished, the current is reversed thereby reversing the poles of the electromagnets 20.

Because the poles of the electromagnets 20 are now reversed, and because the disc 14 is moving, the north pole of the permanent magnets 18 will pass the point where they align with the north poles of the opposite electromagnets 20 and vice versa. Thus, the initial attracting force is changed into a repelling force which moves the disc further in the same direction.

It will be appreciated that the magnets diagonally opposite each electromagnet simultaneously attract or repel each magnet.

It will also be appreciated that both attracting and repelling forces work in harmony to rotate the disc 14.

The switching mechanism for switching the polarity of the electromagnets 20 could be a number of switching mechanisms. For example, the switching

mechanism could be a commutator or be implemented by simply supplying an AC power supply to the electromagnets 20.

Another way of implementing the switching mechanism is to use infrared optical sensors.

An optical sensor is needed at each point where the polarity of the electromagnets is switched, so the same number of sensors as electromagnets is required.

However, only two receptors are needed. The reason for this is because there are basically two groups of electromagnets (looking at their polarity) and each sensor switches on a whole group at a time. Unevenly numbered electromagnets (1,3,5,etc.) form one group, while evenly numbered electromagnets (2,4,6,etc.) form the other group.

The sensors are positioned on the housing 12 while the receptors are positioned on the disc 14.

Because there are two receptors, at any given time, two optical sensors would be activated. One sensor would power group one of electromagnets, while the other would power group two.

With each alternating sensor, the positive and negative terminals are reversed. It is thus connected to the power source in the opposite way to its predecessor. So, if terminal one of the first optical sensor is connected to the positive terminal of the power source, terminal one of the second sensor would be connected to the negative terminal of the power source, and so on.

Thus two circuits are implemented, each powering a group of electromagnets, and each switched on and off by the optical sensors.

In order to use a commutator as a switching mechanism a smaller disc (the commutator), is fitted around the axis. The commutator therefore turns with the disc, and for all practical purpose is part of the disc, except that it is slightly elevated. This is needed for the bushes. The commutator must have a contact point for each electromagnet. Each contact point on the commutator must also be in line with its corresponding electromagnet.

Each contact point on the commutator is wired to the electromagnets in such a way that the polarity of each alternating electromagnet is reversed. If the first electromagnet is wired from top to bottom, then the second is wired from bottom to top, etc. Or put another way, if the north pole of electromagnet 1 is on the outer perimeter of the disc, then the south pole of electromagnet 2 must be on the outer perimeter of the disc, and so on. Contact two on the commutator will simply reverse this.

On opposing sides of the commutator, a bush is fitted. The bush is not fitted onto the disc, but secured from the housing, so that the bushes do not turn with the disc. The bushes remains stationary as the disc turns, but makes contact with different contacts on the commutator, each time reversing the direction of the current.

Bush one is connected to the positive terminal of the power source, and bush two is connected to the negative terminal of the power source)

Apart from situations where an electric motor has to be either very compact or cheap, the motor of the present invention could be used in numerous

applications. It is ideal as a new power source for motor vehicles, aircraft and power generators.

As a power source for motor vehicles, the motor, due to the high revolutions obtainable, low friction and heat, and high torque makes many components of a traditional vehicle, like gearbox and clutch obsolete.

It also makes the manufacture of efficient and economical personal flying vehicles feasible.

In motor vehicles, when applying brakes, or going downhill, the motor could be used as a generator to charge the batteries.

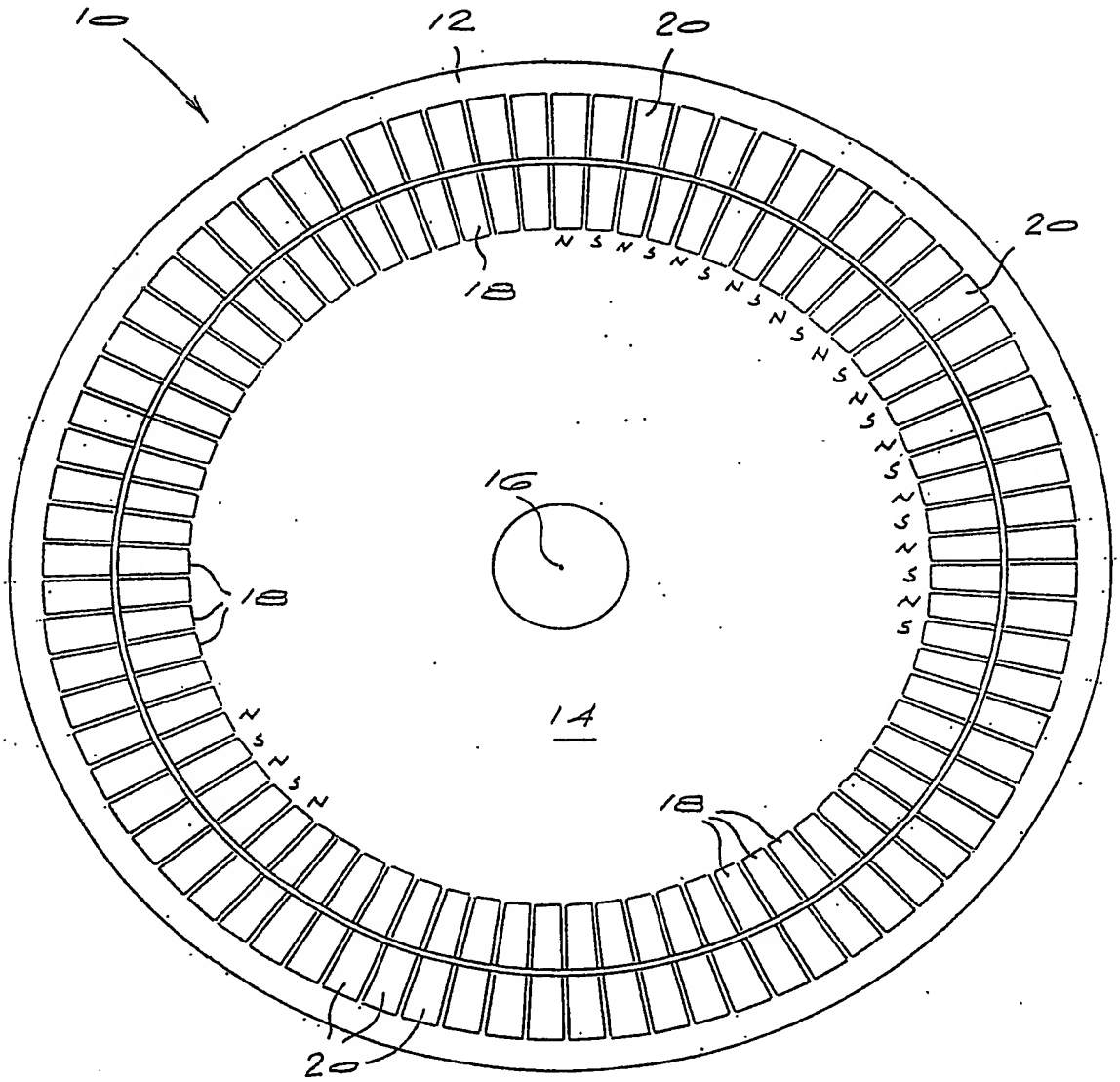
Instead of normal electromagnets, superconducting electromagnets could be used, which means that once going, the motor would not require further energy. This is especially applicable to aircraft and generators.

As generators, the motor could be used as wind turbines very effectively, especially with superconducting electromagnets.

This will make personal power sources with little pollution possible.

DATED THIS 5TH DAY OF DECEMBER 2002

SPOOR & FISHER
APPLICANT'S PATENT ATTORNEYS



SPOOR & FISHER
Applicant's Patent Attorneys